Descriptions and illustrations of some new and poorly known turrids (Turridae) of the tropical northwestern Atlantic. Part 2. Genus *Crassispira* Swainson, 1840 subgenera *Monilispira* Bartsch and Rehder, 1939 and *Dallspira* Bartsch, 1950

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ABSTRACT

Notes, supplemental or new descriptions, and illustrations are provided for nine small, less than 10 mm in height erassispirine turrids in the genus *Crassispira* Swainson, 1840, subgenera *Monilispira* Bartsch and Rehder, 1939 and *Dallspira* Bartseh, 1950 of the tropieal northwestern Atlantic. Most are relatively unknown because of the unavailability of quality figures and adequate descriptions; one is previously undeseribed. This group has been a souree of confusion to workers attempting to identify material eollected in recent decades. Each is treated systematically, including synonyms, deseription, variability in form, distinguishing characteristics, and geographic range. Speeies in the subgenus *Monilispira* include *Crassispira mayaguanaensis*, new species, *C. latizonata* (E.A. Smith, 1882), *C. nigrescens* (C.B. Adams, 1845), *C. elatior* (C.B. Adams, 1845), *C. verbernei* de Jong and Coomans, 1988, *C. pellisphocae* (Reeve, 1845), and *C. guildingii* (Reeve, 1845). Species in the subgenus *Dallspira* inelude *C. flavocincta* (C.B. Adams, 1850), *C. fuscocincta* (C.B. Adams, 1850), and *C. bandata* (Usticke, 1969). A few notes are made regarding *C. fuscocincta*; however, this speeies is still an enigma beeause no speeimen has been aequired for comparative study.

Additional keywords: Gastropoda, Neogastropoda, lectotype designation

INTRODUCTION

This is the second in a series of papers covering relatively unknown or confusing small erassispirine turrids of the tropical northwestern Atlantic (TNWA). In this part, seven speeies in the subgenus *Monilispira* Bartseh and Rehder, 1939 are diseussed. These taxa share spiral sculpture, mostly tightly beaded, and numerous narrow axial ribs as the dominant sculptural element. Three speeies in the subgenus *Dallspira* Bartsch 1950 are also treated, eaeh possessing low broad ribs with peripheral nodules. My intention is to re-describe some poorly known speeies in these subgenera, to update their synonymies, and to elaborate on their zoogeography. Although most of these were described over 150 years ago, their obscurity at present is due to a number of factors: (1) deposition of types in the Natural History Museum (London), making them relatively inaccessible to American workers; (2) scarcity of specimens in museum colleetions; (3) relative inaccessibility of their habitats, whieh are prineipally in the shallows near the islands of the southeastern Caribbean; and (4) small size (less than 10 mm). Progress in bringing these species to the attention of the malaeologieal eommunity has been slow. Clench and Turner (1950) published previously un-illustrated photographs of C.B. Adams' types (*Pleurotoma nigrescens*, *P. elatior*, *P. flavocincta*, and *P. fuscocincta*). Maes (1983) visited the Natural History Museum (London) in the early 1980s for the purpose of examining type material and later expanded on the understanding of a turrid community in the British Virgin Islands. Among the taxa she treated that are also in this work are *Crassispira nigrescens* (C.B. Adams, 1845) and *C. pellisphocae* (Reeve, 1845). Shortly afterward, Kaicher (1984) published photographs of type material but of only one species treated here, *C. nigrescens*. In addition, mid- to late-twentieth century authors added new speeies from geographieally restricted areas. Nowell-Ustieke (1969) described *C. bandata* from St. Croix, and de Jong and Coomans (1988) described *C. mennoi* and *C. verbernei* from the Netherlands Antilles. Photographs of a great many turrid types have only reeently been made available (Williams 2005, 2006, 2009), including some types in the Natural History Museum (London) not previously published. These include the type of *C. latizonata* (E.A. Smith, 1882). *Crassispira mayaguanaensis*, new speeies, present in museum trays for decades is formally described for the first time. By presenting as many of the *Monilispira* and *Dallspira* as is possible at this time, the differential diagnoses can be better demonstrated.

MATERIALS AND METHODS

The methods and materials appearing in the first part of this series (Fallon, 2010) apply to this work. Specimens and types were examined at the National Museum of Natural History, Smithsonian Institution, Washington, DC (USNM), the Academy of Natural Sciences of Philadelphia (ANSP), and the Natural History Museum (London) (NHMUK) for this work. St. Vincent and the Grenadines is herein abbreviated SVG.

SYSTEMATICS

Subfamily Crassispirinae Morrison, 1966, *sensu* McLean, 1971a, b
Genus *Crassispira* Swainson, 1840

Type species: *Pleurotoma bottae* Kiener, 1839, a junior synonym of *Crassispira incrassata* (G.B. Sowerby I, 1834), by subsequent designation (ICZN, 1965).

Remarks: This genus has the largest number of species of all crassispirine genera. As a group they are heterogeneous for characters other than those that define the Crassispirinae and consistent in that they lack the combination of characters that narrowly define each of the other genera in the subfamily. Numerous subgenera have been erected to impose some order, and some have argued for the elevation of the subgenera to genus level (e.g., Kantor et al., 1997). The more traditional practice of including them all in *Crassispira* is followed here because subgeneric assignment is still provisional for many species. More research is needed on most members of this diverse group, and until the differences among the subgenera are more clearly defined, and perhaps new ones erected where necessary, it is felt more appropriate to keep them all under *Crassispira*.

Subgenus *Monilispira* Bartsch and Rehder, 1939

Type species: *Drillia monilifera* Carpenter, 1857 by original designation.

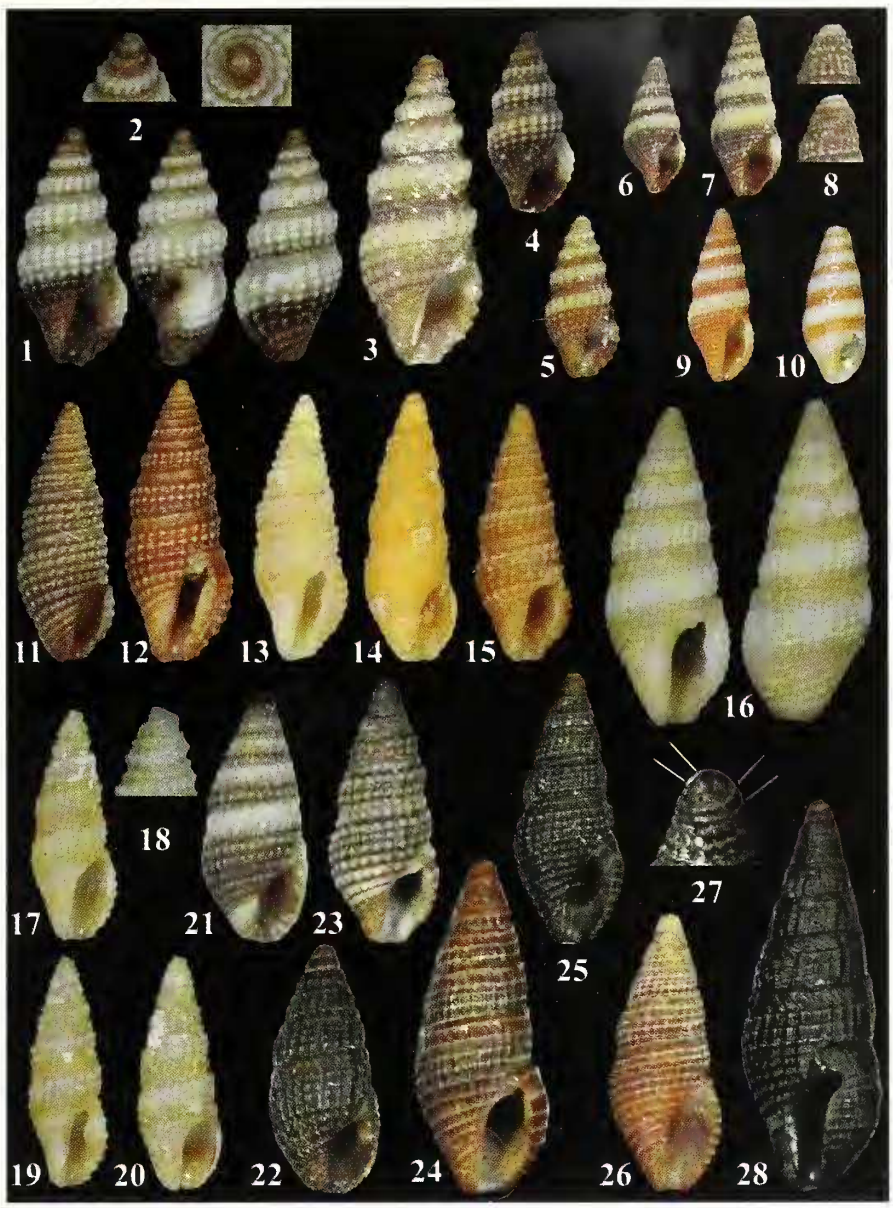
Remarks: Bartsch and Rehder's description of *Monilispira* originally included *Pilsbryspira monilis* (Bartsch and Rehder, 1939), which has a toxoglossate radula, unlike the crassispirine one (two marginal teeth only) of the type species (McLean, 1971a: 120–121). While their description of *Monilispira* could fit some *Pilsbryspira*, it is restricted in the TNWA to generally smaller, more tightly beaded crassispirines. According to Bartsch and Rehder (1939: 137), members of this subgenus have 2 smooth protoconch whorls, followed by a whorl of axial riblets. The teleoconch whorls have a strong subsutural cord and a row of nodules just above the whorl's periphery. The base of the shell has three nodulose spiral threads, and two more on the posterior portion of the columella. The entire surface of the shell has growth lines and spiral threads. The anal sinus is deep and lies on the shoulder between the suture and first row of nodules. Inner lip is reflected and appressed to the columella with a parietal callus at the junction of the inner and outer lips.

The *Monilispira* are distinguished, in most cases, by the dominance of spiral over radial sculpture, including a subsutural cord, peripheral beaded cords, additional beaded cords on the shell's base, and spiral threads in between. The type species, *M. monilifera* from the eastern Pacific, has a single peripheral row of beads, but TNWA species usually have multiple rows of beads on the whorls' periphery, and on the shell's base. However, the degree of beading is variable, even absent in *C. guildingii* (Reeve, 1845), which is provisionally placed in *Monilispira*. Also, TNWA species typically have only two protoconch whorls, the last one-quarter to one-half with axial riblets; anal sinus deep, U-shaped and in mature specimens may be partially constricted at its opening by the parietal callus.

Crassispira (*Monilispira*) *mayaguanaensis* new species
(Figures 1–4)

Crassispira latizonata auct. non (E.A. Smith, 1882): Williams (2005, 2006, and 2009: number 3105, right side photographs only) is likely this species. It was collected at 30 ft [9.1 m], Start Bay, Mayaguana I., Bahama Is. (Williams, pers. comm., 20 Jul 2009).

Description: Shell with 7 rectilinear whorls, stoutly fusiform, anterior half truncated. Whorls give shell a somewhat turreted appearance (Figure 1). Largest specimen examined 8.6 × 3.6 mm (Holotype 6.6 × 3.0 mm). Protoconch with 2 whorls, dome-shaped, smooth except for last one-third, which has 7 distinct, curved riblets (Figure 2). First teleoconch whorl with abrupt appearance of sutural cord and numerous white riblets with a central nodule, second whorl with fine threads that divide ribs into 2 rows of beads, and by third, 4 rows of round white beads that continue to last whorl. Shell base with 4 more beaded rows, last only weakly so; anterior canal with 5 plain spiral cords. Subsutural cord small, only a few diameters greater than spiral threads, lies very close to suture, and undulates with ribs beneath appressed suture. Sulcus (this feature just anterior to suture) with variably-spaced spiral threads made finely nodulous by curved intersecting growth striae, which mirror outline of anal sinus. Beaded rows separated by variable number of fine threads throughout. Closely spaced ribs number 19 on penultimate and 21 on body whorl, where they evanesce on shell's base. Outer lip thin, without a noticeable stromboid notch (a shallow one present on some in type series). Anal sinus lies just below subsutural cord, deep and U-shaped, slightly constricted by a projection of uppermost part of outer lip and parietal callus, causing sinus to appear diagonally oriented. Varix behind anal sinus composed of 3 swollen ribs; 2 additional ribs lie between varix and edge of outer lip. Inner lip thick, opaque, with a parietal callus at its junction with outer lip. Aperture narrow, but bowed out at its midpoint, ending in a short, open siphonal canal



Figures 1–28. *Crassispira* species. **1–5.** *Crassispira* (*Monilispira*) *mayaguanaensis* new species. **1.** Holotype, USNM 1150455, Abraham's Bay, Mayaguana I., Bahama Is., 6.6 × 3.0 mm. Ventral, lateral, dorsal views. **2.** Same specimen, two views of the protoconch. **3.** Paratype, ANSP 355561, Gold Rock, 20 mi [32.2 km] E of Freeport, Grand Bahama I., Bahama Is., 8.6 × 3.6 mm. **4.** Paratype, USNM 902238, Start Bay, Mayaguana I., Bahama Is. **5.** ANSP 368463, McLeans Town, Grand Bahama I., Bahama Is., 4.5 mm. **Figures 6–10.** *Crassispira* (*Monilispira*) *elatior* (C.B. Adams, 1845). **6.** USNM 502365, Pelican I., Barbados, 5.5 × 2.5. **7.** Same lot, 7.2 × 3.0 mm specimen. **8.** Enlarged view of protoconchs of two previous specimens. **9.** USNM 502364, Barbados, 6.9 × 2.8 mm. The light color of this beach-collected specimen may be due to exposure. **10.** ANSP 200027, E. Colon I., Bocas del Toro I., Panama, 4.4 × 1.9 mm. **Figures 11–15.** *Crassispira* (*Monilispira*) *nigrescens* (C.B. Adams, 1850). **11.** USNM 1150457, Limekiln Bay, Carriacou I., Grenada, 7.2 × 2.7 mm. **12.** Author's coll., Clifton Harbor, Union I., SVG, 7.8 × 3.0 mm. **13.** ANSP 349135, Oranjestad, Aruba, Netherlands Antilles, 7.4 × 2.7 mm. **14.** ANSP 350161, Fernando de Noronha Is., Brazil, 7.4 × 2.6 mm. **15.** Author's coll., San Blas Is., Panama, 7.1 × 2.6 mm. **Figures 16–20.** *Crassispira* (*Monilispira*) *latizonata* (E.A. Smith, 1882). **16.** Holotype, NHMUK 1874.5.26.88, locality unknown, 8.9 × 3.5 mm. **17.** USNM 1150458, Falmouth Bay, Antigua, 6.3 × 2.4 mm. **18.** Same specimen, enlarged view of protoconch. **19.** Author's coll., Falmouth Bay, Antigua, 6.4 × 2.5 mm. **20.** ANSP 350160, Fernando de Noronha Is., Brazil, 6.5 mm. **Figures 21–23.** *Crassispira* (*Monilispira*) *verbernei* De Jong and Coomans, 1988. **21.** ANSP 349132, Oranjestad, Aruba, ca. 4.8 × 2.1 mm. **22.** ANSP 349133, Oranjestad, Aruba, 4.7 × 2.1 mm. **23.** USNM 1150459, La Blanquilla I., Venezuela, 5.1 × 2.1 mm. **Figures 24–28.** *Crassispira* (*Monilispira*) *pellisphocae* (Reeve, 1845). **24.** Type, NHMUK 1879.2.26.43, locality unknown, 9.2 × 3.7 mm. **25.** Author's coll., Union I., St. Vincent and the Grenadines, 7.5 × 3.1 mm. **26.** Author's coll., Union I., SVG, 7.7 × 3.2 mm. **27.** Author's coll., Union I., SVG, protoconch of a 6.8 × 2.6 mm specimen. Lines indicate position of the two spiral cords. **28.** Author's coll., Cabo de La Vela, Columbia, 10.8 × 4.3 mm.

very slightly twisted to right. Shell color white, the 4 rows of closely-packed white beads most apparent, with a brown anterior that begins just below anterior-most beaded cord such that a thin brown line shows at suture of spire whorls. Color visible on interior of shell. Shell apex a lighter, golden brown.

Type Material: Holotype: USNM 1150455 (Figures 1–2). Paratypes: 2 spec., 8.6 × 3.6 (Figure 3) and 8.2 × 3.2 mm, Gold Rock, 32.2 km [20 mi] E of Freeport, Grand Bahama I., Bahama Is. (ANSP 355561); 1 spec. (Figure 4), at 9.1 m [30 ft], Start Bay, Mayaguana I., Bahama Is., G. Mackintosh! 24 Mar 1996 (USNM 902238); and 2 spec., 6.1 × 2.5 and 4.5 × 2.1 mm, Marina Bay, Providenciales, Turks and Caicos Is., M. Williams! 16 Aug 1981 (ANSP 357847).

Type Locality: Abraham's Bay, Mayaguana I., Bahama Is., in 12 m.

Material Examined: 5 spec., 3.6, 4.2 (tip broken), 4.5 (Figure 5), 4.9 (tip broken), and 5.8 mm, at 0 ft, McLeans Town, Grand Bahama I., Bahama Is., J. Worsfold! (ANSP 368463); 1 spec. 5.9 × 2.5 mm, from 24.7 m [81 ft], Gold Rock, Grand Bahama Is., Bahama Is. (ANSP 369725).

Distribution: All specimens examined are from the Bahama and Turks and Caicos Islands. The specimen figured in Williams (2005, 2006, 2009: number 3105, right side photographs only), which is this species, was taken at 9.1 m [30 ft], Start Bay, Mayaguana I., Bahama Is. (Williams, pers. comm., 20 Jul 2009). A specimen in USNM 935957 from Ascension Bay, Quintana Roo, Mexico has been identified as this species (Tippett, pers. comm., 19 Aug 2009). Its presence in the western Caribbean indicates a broader range.

Remarks: *Crassispira mayaguanaensis* has the typical characteristics of *Monilispira*: spiral sculpture dominant, beaded peripheral cords, lesser beaded cords on the shell base, and spiral threads (or grooves) present between the cords. From *Buchema primula* (Melvill, 1923) it differs in having round beads on its shoulder that are crowded together, not elongate spiral cord swellings as in *B. primula*. (*Buchema primula* is re-described in Fallon, 2010: 170.) There are more ribs, about 19 on the penultimate whorl, than on the equivalent whorl of *B. primula*, which has about 11. The whorl shoulders are squarish, not rounded as in *B. primula*. Although superficially similar to *C. latizonata* (E.A. Smith, 1882), this species has a smooth, domed-shaped protoconch, not the ridged, squarish one of *C. latizonata*. From *C. nigrescens* it differs principally in having a larger, more dome-shaped protoconch, square shoulders, not rounded ones, and in lacking a heavy subsutural cord.

Etymology: Mayaguana Island Crassispira. The species is named for Mayaguana I., Bahama Is. where it is found, and which is also centrally located in relation to the other localities from which examined specimens derive.

Crassispira (*Monilispira*) *elatior* (C.B. Adams, 1845) (Figures 6–10)

Pleurotoma elatior C.B. Adams, 1845: 4: Krebs (1864: 9); Tryon (1884: 319); Clench and Turner (1950: 276, pl. 29, fig. 7); Robinson and Montoya (1987: 391).

Drillia elatior (C.B. Adams, 1845): Olsson and McGinty (1958: 18); Nowell-Usticke (1959: 81).

Crassispira adamsi de Jong and Coomans, 1988: 111 is an unnecessary replacement name. A homonym, *Pleurotoma elatior* d'Orbigny, was believed by these authors to have been published in 1842, but research by Rosenberg (2009) found 1847 to be the true publication date of the plate with name and drawing of this homonym [now = *Nanodiella elatior* (d'Orbigny, 1847)]. This replacement name has been used by Williams (2005, 2006, and 2009: number 3100) and Kirsh (2006: 17, fig. 21).

Crassispira elatior (C.B. Adams, 1845): García (2010: 12).

Description: Adams' original description was a small ornate shell, subconical, white, with an encircling dark band split by the suture. Spire elongate with 6 slightly convex whorls having 12 weak individual ribs; striae on shell base; anal sinus shallow; anterior canal short. Spire angle 22°, 3.2 mm; shell overall 4.8 × 1.9 mm.

Type Material: Holotype: MCZ 155923, a photograph of which appears in Clench and Turner (1950: pl. 29, fig. 7) and in Williams (2006 and 2009: number 3100, left photograph).

Type Locality: Jamaica.

Material Examined: 2 spec., 5.5 × 2.5 and 7.2 × 3.0 mm (Figures 6–8), from coral in shallow water, Pelican I., Barbados (USNM 502365); 1 spec., 6.9 × 2.8 mm (Figure 9), beach collected, Barbados (USNM 502364); 1 spec., 4.4 × 1.9 mm (Figure 10), E Colon I., Bocas del Toro, Panama, McGinty and Olsson! (ANSP 200027).

Distribution: SE Florida (Palm Beach Co.); Lesser Antilles (St. Martin; St. Croix; Barbados); and western Caribbean (Costa Rica; Panama).

Remarks: Adams did not describe the protoconch but his description of the teleoconch is consistent with photographs of the holotype and with the specimens examined for this project. De Jong and Coomans (1988: 111) report, for a 5.0 × 2.0 mm specimen from St. Martin, about 19 ribs on the penultimate. Adam's count must be a misprint because the holotype though worn appears in the photograph in Clench and Turner to have more than 12 ribs. Fresh specimens have a spirally ridged protoconch, not the dome-shaped, "ribbed" one reported by de Jong and Coomans (1988: 111). The protoconch whorls are low, smooth, with a single keel at the whorl summits (enlarged views of the protoconchs of specimens in Figures 6 and 7 are shown in Figure 8). De Jong and Coomans' St. Martin

specimen may have been worn, in which case the protoeoneh might appear dome shaped.

This is another of C.B. Adams' briefly deseribed and un-illustrated species. The first appearance of a photograph of the holotype was in Clench and Turner (1950). It showed the rather unique sculpture and color pattern, and not long after their publication investigators began reporting its occurrence from a wide area: Costa Riea (Robinson and Montoya, 1987); Panama (Olsson and McGinty, 1958); St. Martin (de Jong and Coomans, 1988); St. Croix (Nowell-Usticke, 1959); and Palm Beach Co., E Florida (Kirsh, 2006).

A ridged protoconch, or one with spirals, and a teleoeonch with beaded or retieulated surface are features shared by *C. nigreseens*, *C. latizonata*, *C. verbernei*, and *C. pellisphocae*. *Crassispira elatior* is easily reeognized by its uniformly small-beaded surface (appearing reticulated in worn speeimens), except in the sulcus where only the axial ribs show, and by its small size. *Crassispira elatior* can be further distinguished from *C. latizonata* by its lower, less exserted protoconch, smoother, rounder (not squarish) outline of the whorls, and rounder shell base. From *C. nigreseens* it can be distinguished by the absence of a smooth, heavy subsutural cord, and a smoother, rounder (not squarish) outline of the whorls. From *C. verbernei*, it ean be distinguished by a more slender profile and proportionally larger aperture, and from *C. pellisphoeae* it differs in having a beaded surface, a peripheral white band, not uniformly brown or black, and a smaller size.

Crassispira (*Monilispira*) *nigreseens* (C.B. Adams, 1845) (Figures 11–15)

Pleurotoma nigrescens C.B. Adams, 1845: 3 [Jan.]: d'Orbigny (1847: 170); C.B. Adams (1850a: 54); Krebs (1864: 10); Dall (1885: 237); Paetel (1888); Clench and Turner (1950:315, pl. 29, fig. 11).

Not *Pleurotoma nigrescens* Reeve, 1845: pl. 26, no. 235 [Nov.], a junior homonym, = *Strictispira paxillus* (Reeve, 1845).

Drillia (*Crassispira*) *nigrescens* (C.B. Adams, 1845): H. and A. Adams (1853: 91); Tryon (1884: 173).

Crassispira nigrescens (C.B. Adams, 1845): Abbott (1958: 95); Nowell-Usticke (1959: 81); Work (1969: 679); Ekdale (1974: 650); Cubit and Williams (1983: 29); Maes (1983: 323); Kaicher (1984: eard 3984); D. Lamy et al. (1984); de Jong and Coomans (1988: 109); Leal (1991: 189, pl. 24, fig. F [of protoeonch only]); Espinosa et al. (1995: 43); Pointier and Lamy (1998: 59, text photo); Williams (2005, 2006, and 2009: number 3134); Fallon (2008: figs. 17a, b).

Crassispira (*Crassispirella*) *nigrescens* (C.B. Adams, 1845): Warmke and Abbott (1961: 135, pl. 25, fig. m); Powell (1966: 76); Abbott (1974: 273); Vokes and Vokes (1984: 30); Rios (1994: 167, pl. 55, fig. 760); Redfern (2001: 126, pl. 57, fig. 523A-C; pl. 112, fig. 523D). See under Remarks below about the possible misidentification of Abaco I. specimens.

Not Vokes and Vokes (1984: pl. 21, fig. 8 only): mislabeled photograph of *Agathotoma trilineata* as *C.* (*C.*) *nigrescens*; not Rios (1985: 141, pl. 48, fig. 653), which is *Agathotoma trilincata* (Tippett, pers. comm., 21 Apr 2009).

Crassispira (*Monilispira*) *nigrescens* (C.B. Adams, 1845): Rios (1983).

Ithycythara lanceolata anct. non (C.B. Adams, 1850): miscaptioning of *C.* (*C.*) *nigrescens* in Vokes and Vokes (1984: pl. 29, fig. 10).

Pyrgospira flavocincta anct. non (C.B. Adams, 1850): misidentifieation by Faber (2007: 124, figs. 30, 31) that may be this species.

Drillia ponciana Dall and Simpson, 1901: 386, pl. 57, fig. 19: a junior synonym according to Kaicher (1984: card 3984). The type locality is Playa de Ponce, Porto Rico; the holotype is in USNM 159684.

Drillia (*Clathrodrillia*) *ponciana* (Dall and Simpson, 1901): Abbott (1974: 270, fig. 3000).

Description: A speeimen from Limekiln Bay, Carriaeou I., Grenada, very close in appearance to the lectotype depicted by Clench and Turner (1950), has been selected for deseription here.

Shell 7.2 × 2.7 mm, of 8 slightly convex whorls, fusiform, anterior truncated; whorls patterned with heavy subsutural eord followed by rows of tightly packed beads (Figure 11). Protoconch pancispiral with ~2 whorls, smooth except last 0.5 whorl has 6 riblets; whorls not immersed, tip lies above level of second whorl. Teleoconeh with 6 whorls, first 2 with a single row of round beads, changing to 2, then to 3 by penultimate whorl. Beads are formed at interseetion of spiral and axial cords. Body whorl with 4 additional beaded rows, followed by 4–5 rows of slightly granulose to smooth cords that encircle siphonal eanal. Spiral threads, 0–3 in number, lie between spiral cords. Subsutural cord, loeated near suture, sharply ridged. Sulcus narrow, about one-quarter width of spire whorls, concave, with reduced but thin lamellae-like curved rib extensions and growth striae, overridden by fine spiral threads. Ribs number 23 on penultimate, 19 on body whorl to varix. Varix eomprised of 3 swollen ribs. Aperture 31% of overall length of shell, narrowly oval ending anteriorly in a short, open, slightly notched siphonal canal. Outer lip thin but reinforced by two ribs; stromboid notch weak. Anal sinus deep, lies below sutural cord, and U-shaped, being partially closed at its entrance at edge of lip by parietal eallus and upward turn of outer lip. Inner lip thin, appressed along its length, ending in a parietal eallus that bridges space between parietal wall and upper side of anal sinus. Shell color brown, with spiral cords and siphonal canal paler; crests of beads and sutural cord lighter still.

Type Material: The lectotype (selected by Clench and Turner, 1950: pl. 29, fig. 11) is in MCZ 177354.

Type Locality: Jamaica.

Material Examined: 1 spec., 5.8 mm, at 2–3 m, in drifted sand on rocks, White Bay, Guana I., British Virgin Is., V.O. Maes!, 15–28 Feb 1975 (ANSP 338612); 1 spec. 6.9 × 2.8 mm at 4.6 m, Young I., SVG, G. Maekintosh!, 24 Jul 1998 (author's coll.); 1 spec. 6.6 × 2.7 mm, at 7.6 m, Petit Nevis, SVG, G. Maekintosh! 14 Jul 1996 (author's coll.); 14 spee., up to 7.8 × 3.0 mm (Figure 12), crabbed, intertidal, Clifton Harbor, Union I., SVG,

P. Fallon!, 16 Jun 2007 (author's coll.); 1 spec., at 0.9–1.5 m [3–5 ft] in weed, sand, some rock, 4.8 km [3 mi] NE of Ragged Pt., Barbados, R. and V.O. Maes! Dec 1963 (ANSP 291265); 3 spec., 5.9 × 2.3, 5.7 × 2.3, and 5.8 × 2.3 mm, at 6.7 m, S side of Molinere Pt., Grenada, G. Mackintosh! 18 Apr 2004 (USNM 1150456); 1 spec., 6.5 × 2.4 mm, at 7.3 m on silted reef, S side of Molinere Pt., Grenada, G. Mackintosh! 17 Jan 2007 (author's coll.); 1 spec., 6.5 × 2.5 mm, E side of Prickly Pt., SW Grenada, R. Ostheimer!, Jan–Feb 1964 (ANSP 296632); 6 spec. (4 very worn), N end of Grand Anse Beach, W Grenada (ANSP 297466); 2 spec., 7.2 × 2.7 (Figure 11) and 6.6 × 2.7 mm (broken apex), at 12.8 m, in rubble, Limekiln Bay, Carriacou I., Grenada, (USNM 1150457); 1 spec., 7.4 × 2.7 mm (Figure 13), harbor dredgings, Oranjestad, Aruba, Netherlands Antilles (ANSP 349135); 4 spec., best is 7.4 × 2.6 mm (Figure 14), Fernando de Noronha Is., Brazil, Jan 1979 (ANSP 350161); and 2 spec., 7.1 × 2.6 (Figure 15) and 7.6 × 2.7 mm, at 8–10 m on fine sand, San Blas Is., Panama (author's coll.).

Distribution: Greater Antilles: Cuba, Jamaica, Cayman Is., and Puerto Rico; Lesser Antilles: U. S. Virgin Is. to the Netherlands Antilles; Western Caribbean: Panama (San Blas Is.); and South America: Venezuela (Los Roques Is.), Trinidad and Tobago (Tobago I.), and Brazil (Fernando de Noronha Is., Pernambuco). Although not examined for confirmation (and no corresponding photographs were published in the sources) specimens have been reported from the Gulf of Mexico: Mexico (Vokes and Vokes, 1984: Arcas Cays, Campeche Bank); Western Caribbean: Mexico (Ekdale, 1974: between Cancun and Contoy Is.), and Panama (Cubit and Williams, 1983: Galeta Reef).

Remarks: *Crassispira nigrescens* is widely distributed and not uncommon, based on the number of publications in which it has appeared and localities reported. Although relatively well known, some confusion about its true identity persists. *Crassispira nigrescens* reported by Redfern (2001: 126, pl. 57, figs. 523A–C; pl. 112, fig. 523D) from Abaco I., Bahama Is., may be *C. mayaguanaensis*, a similar species but with distinctive differences (see comparison above under that species). No other published report of *C. nigrescens* from the Bahama Is. has been found. Some confusion in identity may be due to the geographic variability of the species. Although a fairly consistent pattern of surface sculpture occurs in specimens throughout its range (strong, sharply delineated subsutural cord, narrow sulcus, 3 beaded spiral cords), noticeable differences in the relative size of various elements of this pattern are evident among geographically separate populations. Geographic variability is not unexpected given the species' apparent confinement to island habitats and its attendant isolation into small populations. Photographs of similarly-sized specimens from several different localities are shown in Figures 11–15. The relative size of the beads and number of beaded cords on the spire whorls are variable characters, as is color. The extremes in bead size are exhibited by the Grenadian specimen with the largest (Figure 11), and the Fernando de Noronha Is. specimen with the smallest beads (Figure 14). This latter specimen also has finer cords and more rows of beaded cords on the spire whorls than the typical form. It may eventually prove to be a separate species when a sufficient number of specimens has been examined. Color also appears to vary with populations, though the small sample size precludes any general statement about specific populations. Specimens examined from Aruba and Fernando de Noronha Is. shown in Figures 13 and 14 are lighter colored than the ones shown from other localities.

Crassispira (*Monilispira*) *latizonata* (E.A. Smith, 1882) (Figures 16–20)

Pleurotoma (*Crassispira*) *latizonata* E.A. Smith, 1882: 212–213.

Crassispira latizonata (E.A. Smith, 1882): Rios and Barcellos (1979: 164); Leal (1991: 188–189, pl. 24, fig. E); Williams (2005: number 3105, left photograph only); Barros et al. (2005: 147, fig. c); Williams (2006 and 2009: number 3105, left photographs only).

Crassispira (*Crassispirella*) *latizonata* (E.A. Smith, 1882): Rios (1985: 141, pl. 48, fig. 652); Rios (1994: 167, pl. 55, fig. 759); Kantor et al. (1997: 56, 61–62, fig. 7 [subgenus with question mark on p. 56, but not on p. 61]); Rios (2009: 324, fig. 828).

Drillia ponciana var. *virgata* Usticke, 1969. Nowell-Usticke, 1969: 27, pl. 5, fig. 1098: a synonym according to Rosenberg (2009). The type locality is Barbados; the lectotype is in AMNH 195457 (designated as "holotype" by Nowell-Usticke, 1971: 22, but corrected to lectotype by Boyko and Cordeiro, 2001: 60).

Drillia bandata Usticke, 1971: 22, pl. 4, fig. 1088: is not *Crassispira bandata* (Usticke 1969). *D. bandata* was an unnecessary replacement name for *Drillia virgata* (Usticke, 1969), as Nowell-Usticke incorrectly assumed his *Drillia ponciana* var. *virgata* was preoccupied (see Faber, 1988: 72). Nowell-Usticke intended to elevate the taxon to species-group level.

Description: The specimen described here, from Falmouth Bay, Antigua, matches Smith's description of the type shown in Figure 16, allowing for differences exhibited by a less mature shell (Figure 17). The holotype is believed to be an exceptionally large specimen (8.9 × 3.5 mm). The type of *Drillia virgata* (from Barbados) is comparably sized at 8.5 mm in length.

Shell narrowly fusiform with truncated anterior, 6.3 × 2.4 mm, of 6.75 slightly convex whorls, aperture 36% of overall shell height (holotype with 8+ whorls). Surface covered, except in a narrow sulcus, with closely-packed rows of beads (Figure 17). Protoconch with 1.75 whorls, first 1.25 smooth, with cord on summit creating square shoulder (Figure 18). Protoconch identical to that figured for Brazilian *C. latizonata* by Leal (1991: pl. 24, fig. E). (Although worn, cord still visible on holotype.) Cord absent on last 0.5 turn but instead there are ~10 angled riblets, forming a slight shoulder below summit of whorl. Teleoconch begins with abrupt appearance of a spiral cord mid-whorl, with narrow axials angled at intersection of mid-whorl cord, beaded at angle, and

with appearance of a subsutural cord, here beaded, not smooth. A third spiral cord appears below central one on third whorl, and a fourth on fourth whorl. Five, including subsutural cord, are on penultimate whorl. Body whorl with 11 spiral cords: 5 above suture line followed by 3 beaded cords on shell base and 3 granulose cords on siphonal canal. Body whorl with 18 axials, last 3 forming a varix, and 19 on penultimate whorl. Sulcus narrow, with a few faint spiral threads visible on last whorl that undulate over ribs and with fine incremental growth lines of same open curvature as sinus. Ribs present but reduced in sulcus. Subsutural cord slightly thinner than peripheral cords, and lies at or just below suture. Outer lip plain, without a stromboid notch. A shallow notch present in holotype. Anal sinus anterior to sutural cord, shallow and broad, possibly because of immature condition of examined specimen. Holotype, a mature shell, witha U-shaped sinus constricted at opening above by parietal callus. Inner lip appressed to columella and parietal wall, a very slight lobe at juncture of outer lip, not the heavy tubercle in type specimen. Anterior canal is very short. Shell color a light golden brown with a band consisting of 3 rows of white spiral beads on shell's periphery, and another with 2 rows of white beads on shell's base, below suture line. Apex also white.

Type Material: Holotype: NHMUK 1874.5.26.88.

Type Locality: Unknown to E.A. Smith.

Material Examined: Holotype, 8.9 × 3.5 mm (Figure 16), no locality; 2 spec., 6.3 × 2.4 (Figures 17–18) and 6.4 × 2.5 mm (Figure 19), from under rocks at 2–3 m, Falmouth Bay, Antigua, M. Coltro! (USNM 1150458); 4 spec., 5.4, 6.5 (Figure 20), 6.8 and 6.8 mm, Fernando de Noronha Is., Brazil (ANSP 350160).

Distribution: Lesser Antilles (Antigua, Barbados) and Brazil (Fernando de Noronha Is.), in intertidal to 3 m depths (as reported for the Antigua and Brazil localities).

Remarks: Smith's taxon was published without illustration and without locality; it remained largely unknown for almost a century. Specimens from Fernando de Noronha Island were first recognized by Brazilian workers as *C. latizonata* (Rios and Barcellos, 1979; Rios 1985; Leal, 1991; Rios 1994). Somewhat earlier, in his 1969 publication, and probably unaware that this species had already been described, Nowell-Usticke published a new description of a specimen from Barbados, naming it *Drillia ponciana* var. *virgata* Usticke, 1969. He described it as having 1.5 swirled nuclear whorls, 7 whorls with packed rows of white beads, without a strong subsutural cord, and a brown sutural band. He further noted that the shell base has brown beading, which turns into brown spiral cords. Like the type of *C. latizonata*, his specimen from Barbados is quite mature, 8.5 × 3.2 mm (see Williams, 2006: number 3105, second photograph from the left). In his 1971 publication, Nowell-Usticke emended his description to include "1 ½ swirled, **keeled** nuclear whorls" (emphasis added). The keeled protoconch (and less prominent sutural cord) clearly distinguishes this species from *C. nigrescens* and from *C. mayaguanaensis*, which have smooth protoconchs. A photograph of the protoconch of *C. latizonata* appears in Leal (1991: pl. 24, fig. E), and is described as "paucispiral, with 1¼ whorl and has a squarish profile to its shoulder."

Rios (1985: 141) described this species as 6 × 2 mm, 6 whorls, pale-yellow with light-brown spiral bands, and with a sculpture of "beaded spiral rows (22 to 23 beads on the two last whorls). Base with 6 to 7 spiral threads." It is not clear from Rios' description how many beaded cords are present on the shell base, but the photograph provided in pl. 42, figure 652, appears to be this species, smaller and narrower than the type, but like the specimen described herein.

Crassispira (*Monilispira*) *verbernei* de Jong and Coomans, 1988
(Figures 21–23)

Crassispira verbernei de Jong and Coomans (1988: 111, pl. 17, figs. 589A, B; pl. 43, fig. 589); Williams (2005, 2006, and 2009: number 3108).

Monilispira verbernei (de Jong and Coomans, 1988): Faber (2007: 124).

Description: According to de Jong and Coomans, holotype is 4.8 × 2.2 mm, of 6 whorls with 1 nuclear whorl; shell moderately convex. Protoconch shows 3 weak spirals. Outer lip sharp, thickened behind, continued around top of aperture as a thick callous pad. Colour greyish- or orange-brown, with a broad white (anal) band below suture; lower half of base also white. Lower halves of whorls with dark brown lines (6 on body whorl), coinciding with spiral grooves. An all-brown color form exists, a few of which are paler below suture.

Type Material: Holotype: ZMA 3.87.097; several paratypes are in ZMA 3.87.169 and ZMA 3.87.170 (Williams, 2005: number 3108). A photograph of the holotype is in de Jong and Coomans (1988: pl. 43, fig. 589).

Type Locality: Aruba, west coast.

Material Examined: 1 spec., 4.8 × 2.1 mm (Figure 21), harbor dredgings, Oranjestad, Aruba, Netherlands Antilles, Frère Fredericus! (ANSP 349132); 1 spec., 4.7 × 2.1 mm (Figure 22), harbor dredgings, Oranjestad, Aruba, Frère Fredericus! (ANSP 349133); 1 spec., 5.1 × 2.1 mm (Figure 23), at 7.6 m, La Blanquilla I., Venezuela, G. Mackintosh!, 4 Jan 2000 (USNM 1150459); 1 spec., 4.6 × 2.1 mm (protoconch missing), Aruba, locality not specified, M. Beerman! (author's coll.).

Distribution: The only published occurrence is on Aruba's west coast. A specimen in USNM 902239 from Los Roques, Venezuela, (5.4 × 2.2 mm, under rocks at

3 ft [0.9 m], G. Duffy!, 24 Mar 1996) is this species (Tippett, pers. comm., 19 Aug 2009). This specimen and the one from La Blanquilla I. indicate that this species is not endemic to Aruba but also occurs near other islands off Venezuela. A specimen in the Florida Museum of Natural History (FLMNH 231607) from Bocas del Toro Prov., Panama (L. McGinty!, 1951) catalogued as this species needs to be confirmed.

Remarks: The typical color pattern described by de Jong and Coomans, brown with a broad white band below the suture, is shown in Figure 21. An all-brown color form shown in Figure 22 agrees well with their description, but the protoconch is worn smooth so its 3 weak spirals are absent. Other color forms are depicted in Williams (2006: number 3108, paratypes in ZMA 3.87.170). There are 3 other species in *Monilispira* with spiral cords present on the protoconch but the form of the protoconch is quite different for each: *C. elatior*, *C. latizonata*, and *C. pellisphocae*. The protoconchs of *C. pellisphocae* and *C. verbernei* are depicted in SEMs by de Jong and Coomans (1988: pl. 17, figs. 588 and 589A). Protoconchs of *C. elatior*, *C. latizonata*, and *C. pellisphocae* are illustrated in Figures 8, 18 and 27, respectively. *C. elatior* has a single keel, *C. verbernei* 3 fine spirals, *C. pellisphocae* a keel and basal cord, and *C. latizonata* a single keel, with the protoconch more "telescoped" than that of *C. elatior*. There are other differences too. *Crassispira verbernei* is most similar to *C. pellisphocae*, which is about twice its height (to 8.5 mm according to de Jong and Coomans, but up to 11 mm for specimens from St. Croix according to Nowell-Usticke, 1959: 81), and has cancellation overall except in the sulcus versus limited to the base in *C. verbenei*.

A specimen from La Blanquilla I. (Figure 23) may be indicative of regional variation. It has a more streamlined profile, a narrower sulcus, and a more pinched anterior. More material needs to be examined to asses whether this population has consistent differences from that on Aruba.

Crassispira (*Monilispira*) *pellisphocae* (Reeve, 1845) (Figures 24–28)

Pleurotoma pellis-phocae Reeve, 1845: pl. 29, fig. 263; Dall (1885: 238).

Pleurotoma pellisphocae Reeve, 1845: Paetel (1888).

Defrancia pellisphocae (Reeve, 1845): H. and A. Adams (1853: 96); Paetel (1888).

Lachesis pellisphocae (Reeve, 1845): Tryon (1884: 225, pl. 27, fig. 3).

Crassispira pellisphocae (Reeve, 1845): de Jong and Coomans (1988: 110, pl. 17, figs. 588A, B; pl. 43, fig. 588); Williams (2005, 2006, and 2009: number 3133); Fallon (2008: 12, 13, figs. 19a, b, erroneously captioned as *Strictispira pellisphocae*).

Crassispira (*Monilispira*) *pellisphocae* (Reeve, 1845): Maes (1983: 322, figs. 16, 25, 32).

Monilispira pellisphocae (Reeve, 1845): Faber (2007: 124, figs. 27–29).

Pleurotoma cancellata Reeve, 1846, *non* Eichwald, 1833: Synonymized here by Tomlin (1934: 40). St. Vincents [sic], W. Indies is written on the original mounting board and so is taken as the type locality. Two syntypes are in NHMUK 1875.4.26.17. These were verified as *C. pellisphocae* for this work.

Chauvetia pellis-phocae (Reeve, 1846): erroneous reassignment to a buccinid genus by Tomlin (1934: 39).

Drillia cancellata (Reeve, 1846): Nowell-Usticke (1959: 81).

Clathrodrillia limans Dall, 1919: 14, pl. 13, fig. 3: a junior synonym according to Maes (1983: 322). The type locality is "Gulf of California", which is in error according to McLean (1971b: 907). The holotype is in USNM 56218.

Crassispira? Gibson-Smith, 1972: 475 is this species according to Maes (1983: 322).

Description: Reeve's type is a worn specimen (Figure 24), so a 7.5 × 3.1 mm specimen from Union I., SVG is described (Figure 25).

Shell fusiform, truncated on anterior end, 8 slightly convex whorls; aperture about 41% of shell height. Shells attain at least 10.8 mm in height. Protoconch is worn smooth, but in a young specimen has ~1.5 whorls bearing 2 spiral cords, 1 at crest of whorl, other at bottom, next to suture with succeeding whorl; last 0.25 whorl with riblets in addition to the 2 cords (Figure 27). Upper cord gives protoconch a ridged, flat-top appearance, but sloped, as nuclear whorl rises from center axis of protoconch. Both cords move to center of post-nuclear whorls, subsutural cord arising above them on first teleoconch whorl. Teleoconch with ~6 convex whorls with peripheries slightly below midwhorl. Axial and spiral cords subequal, evenly spaced, giving surface reticulated appearance. Spirals override axials, and are lighter in color. Subsutural cord of same size as spirals, in narrow sulcus a little wider than space between succeeding spiral cords; close-packed threads between each of spiral cords and in sulcus. In some specimens, sulcus is wider (Figure 28). Sulcus has traces of axials, which are hooked to left, marked with heavy arcuate growth striae. On body whorl, axials evanesce on shell base where spiral cords then become dominant. Up to 4 spiral cords on spire whorls, exclusive of subsutural cord (early whorls have fewer), and 5 more on shell base, where tiny beads form at the intersection of radial cords in some. Additionally, 5 cords encircle siphonal canal. Axials ~22 on body whorl to varix, 30 on penultimate whorl. Varix a low, broad swelling behind anal sinus. Outer lip thin, without stromboid notch. Anal sinus deep and U-shaped, bordered by parietal callus, and acutely angled toward shell axis, without an appreciable constriction of opening. Two small ribs present near edge of outer lip. Inner lip thin, appressed to parietal wall. Aperture narrow, ending in short, open siphonal canal.

Type: Holotype: NHMUK 1879.2.26.43, a single specimen lot (identified as the holotype by Maes, 1983: 322). It is illustrated in Faber (2007: 124, fig. 27, captioned "syntype 1"). In the same paper, Faber's figures 28

and 29 (syntypes in NHMUK 1875.4.26.17) are the types of *P. cancellata* Reeve, 1846, a junior synonym.

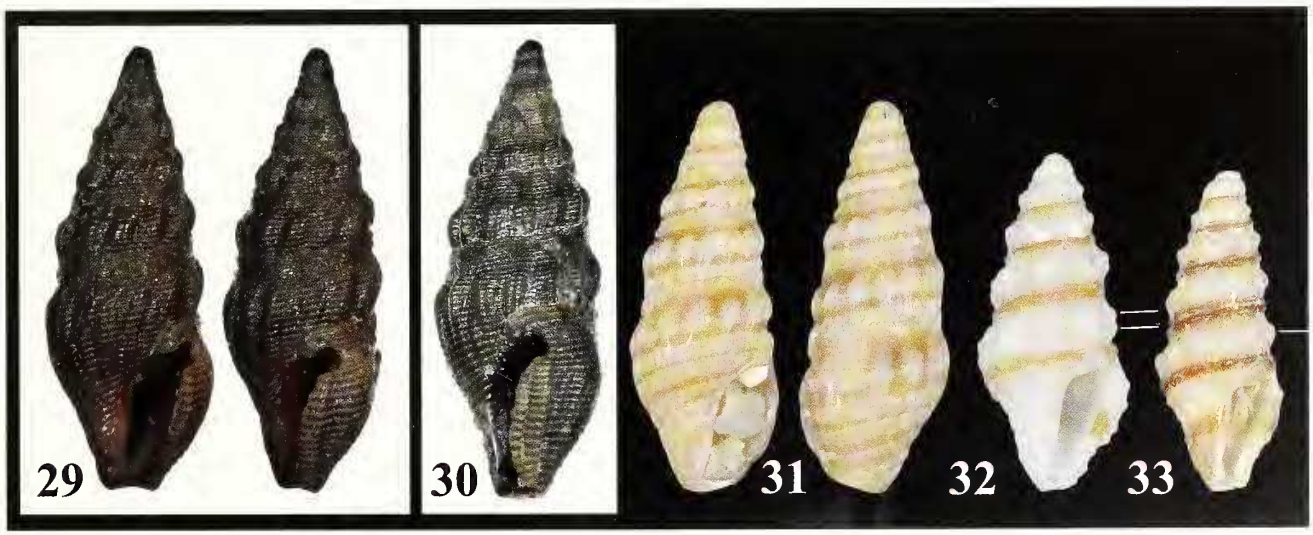
Type Locality: Unknown to Reeve. It is here designated as Union I., St. Vincent and the Grenadines.

Material Examined: Type in NHMUK 1879.2.26.43, 9.2 × 3.7 mm, type locality not stated; 1 spec., at 8–10 ft [2.4–3.0 m], off Fowey Rock, Miami-Dade Co., E Florida (USNM 902234); 1 spec., 8.1 x 3.5 mm, on coral rubble at 0.3–0.9 m [1–3 ft], Media la Luna, off La Parguera, Puerto Rico, T. Watters!, 27 Apr 2009 (T. Watters coll.); 10 spec., 7.4 × 3.0, 7.8 × 2.9, 7.5 × 2.9, 8.4 × 3.2, 7.8 × 3.0, 7.7 × 3.0, 7.5 × 2.8, 7.3 × 2.6, 6.5 × 2.5, and 5.7 × 2.5 mm, at 4.6 m on large rocks at night, Young I., SVG, G. Mackintosh! 24 Jul 1998 (author's coll.); 306 spec., up to 9.9 × 3.9 mm (Figures 25, 26, 27), crabbed, intertidal, Clifton Harbor, Union I., SVG (author's coll.); 5 spec., 6.9 × 2.7, 6.8 × 2.7, 6.4 × 2.3, 6.6 × 2.5 and 7.0 × 2.7 mm, at 6.7 m, S side of Molinere Pt., Grenada, G. Mackintosh! 18 Apr 2004 (author's coll.); 25 spec., to 7.4 × 2.9 mm, 7.3 m, S side of Molinere Pt., Grenada, G. Mackintosh! 17 Jan 2007 (author's coll.); 1 spec., 6.8 × 2.7 mm, on coral sand/rubble, Carriacou I., Grenada, T. McCleery! May 2004 (author's coll.); 1 spec., 8.5 × 3.2 mm, at 6.1 m, Ronde I., Grenada, G. Mackintosh!, 6 Jun 1998 (author's coll.); 3 spec., 8.2 × 3.0, 7.2 × 2.8, and 7.4 × 2.7 mm, at 11 m, Man of War Bay, Tobago I., Trinidad and Tobago, G. Mackintosh!, 6 Jun 1998 (author's coll.); 1 spec., 10.7 × 4.2 mm, Malmok, Aruba, in 2–9 m, A. Bodart and L. Couto!, Nov 1996 (USNM 902237); 5 spec., 10.8 × 4.3 (Figure 28), 10.8 × 4.0, 10.6 × 4.1, 10.1 × 4.2, and 9.0 × 3.3 mm, at 4–10 m, Cabo de La Vela, Colombia, A. Jorio and L. Couto! (author's coll.).

Distribution: Florida: E Florida (Miami-Dade Co.); Bahama Is., (Eleuthera I.); Greater Antilles: Dominican Republic, Puerto Rico; Lesser Antilles: U. S. Virgin Is. (St. Thomas, St. Croix), Br. Virgin Is. (Guana I., Antigua I., Barbuda I.), SVG (St. Vincent I., Union I.), Grenada (Grenada I. Calivigny I., Carriacou I., Ronde I.), Netherlands Antilles (Curaçao, Aruba, Bonaire); and South America: Trinidad and Tobago (Tobago I.), Colombia, and Venezuela (Falcon: offshore Is.).

Remarks: Only incomplete descriptions have been published in the literature (Reeve, 1845: pl. 29, fig. 263; Maes, 1983: 322, figs. 16, 25, 32; and de Jong and Coomans, 1988: pls. 17, 43, figs. 588A, B). Photographs are of generally poor quality because *C. pellisphocae* is uniformly black, resulting in poor definition of the fine detail of the shell's sculpture. The distinctive protoconch is nicely illustrated by Maes (1983: fig. 25), and also by de Jong and Coomans (1988: pl. 17, fig. 588). The whole shell illustrated by Maes (1983: fig. 16) is subadult, and the structure of the mature lip is lacking.

This species is distinctive with its axials and spirals nearly the same size, and equally spaced giving it a fine, cancellate appearance. The closest species is *C. verbernei*, de Jong and Coomans, 1988, which is smaller, nodulous, not cancellate, and usually more colorful, not the uniform black or dark brown of *C. pellisphocae*. It differs from *C. nigreseens* in being broader, in lacking the beaded spirals, in having a finer subsutural cord, and in having a ridged protoconch.



Figures 29–33. *Crassispira* species. **29–30.** *Crassispira* (*Monilispira*) *guildingii* (Reeve, 1845). **29.** Lectotype in NHMUK 1875.4.26.18, St. Vincent, 8.3 × 3.3 mm. **30.** USNM 1150460, Young I., SVG, 8.5 × 3.5 mm. **Figure 31.** *Crassispira* (*Dallspira*) *flavocincta* (C.B. Adams, 1850), ANSP 371999, Port Royal, Jamaica, 5.1 × 2.1 mm. Dorsal and ventral views. **Figures 32–33.** *Crassispira* (*Dallspira*) *bandata* (Usticke, 1969). **32.** ANSP 298618, off E coast, N end Elbow (Little Guana) Cay, Great Abaco, Bahama Is., 4.4 × 1.9 mm. The two rows of nodules on the penultimate whorl are indicated by lines. **33.** ANSP 291177, 1 mi N of Holetown, Barbados, 4.2 × 1.7 mm. This specimen has only a single row of large peripheral nodules.

Crassispira (*Monilispira*) *guildingii* (Reeve, 1845)
(Figures 29–30)

Pleurotoma guildingii Reeve, 1845: pl. 30, fig. 268: Reeve (1846: 116); d'Orbigny (1847: 170, no. 365); Gray (1854: 30, number 365); Beau (1858: 7); Krebs (1864: 9); Arango y Molina (1878: 219); Dall (1885: 236); Paetel (1888).
Defrancia guildingii (Reeve, 1845): H. and A. Adams (1853: 96); Paetel (1888).
Clathurella guildingii (Reeve, 1845): Gould (1862); Tryon (1884: 279, pl. 18, fig. 44).
Crassispira guildingii (Reeve, 1845): Williams (2005, 2006, and 2009: number 3132).

Description: The specimen described here is almost identical to the best of Reeve's 3 lectotypes, and depicted in Figure 29.

Shell with 8 convex whorls, is 8.5 × 3.5 mm, biconic, truncated anteriorly, and aperture, including canal about 44% of total height of shell (Figure 30). Protoconch 2 smooth whorls, black in color, ending where incised spiral lines begin, marking beginning of adult sculpture. No riblets visible on protoconch, possibly because of its slightly worn condition. Teleoconch whorls all about the same, with wide, flat sulcus about a third of height of spire whorls. Suture appressed and undulating over the ribs. Below, round, broad ribs run to the succeeding suture, numbering 11 to varix, 13 on penultimate; on body whorl they evanesce on shell base. A few narrower, shorter ribs present adjoining larger ribs on body whorl. Varix a swollen rib, ~0.25 turn behind outer lip. Entire surface of teleoconch covered with fine spiral cords, most separated by 1–2 fine threads; cords slightly larger on ribs shoulder and in sulcus posterior-most 2–3, just below the suture, which form subsutural fold. Spiral cords a dirty, slightly translucent white; threads black, giving shell a dusky color. Outer lip thin but reinforced by 2 small ribs behind, in front of varix; no stromboid notch. Inner lip thin and narrow, appressed to columella and parietal wall. Parietal callus present at junction of inner and outer lips. Anal sinus deep and u-shaped, positioned between subsutural fold and callus, and shoulder formed by ribs, its opening slightly constricted by parietal callus. Anterior canal short, open and not otherwise distinguished from aperture, covered with ~10 spiral cords that are the same as on shell proper.

Type Material: Three syntypes: NHMUK 1875.4.26.18. The one in better condition, as suggested by Tippett (pers. comm., 19 Aug 2009), is here designated the lectotype. The two paralectotypes are in poor condition and not illustrated.

Type Locality: St. Vincent, West Indies.

Material Examined: Lectotype in NHMUK 1875.4.26.18, 8.3 × 3.3 mm (Figure 29), and 2 paralectotypes also in NHMUK 1875.4.26.18, 9.3 × 3.7 and 8.1 × 3.3 mm; 1 spec., 8.5 × 3.5 mm (Figure 30), in 4.6 m, Young I., SVG, G. Mackintosh!, 3 Sep 2000 (USNM 1150460).

Distribution: Reported in mid-nineteenth Century literature from Cuba (d'Orbigny, 1847, Gray, 1854, and Arango y Molina, 1878), Guadeloupe (Beau, 1858 and Krebs, 1864), and "St. Vincent". The only recent reports are from St. Vincent I. (Williams, 2005, 2006, and 2009; Coltro and Coltro, 1999: Photo Gallery).

Remarks: This taxon was first combined in *Crassispira* in an early version of the online database Malacolog (Rosenberg, 2009), and followed by Williams (2005) in publication. Its unique sculpture of broad ribs, a wide flat sulcus, and the lack of spirally beaded cords, set it apart from the rest of the *Crassiclava*.

This species has not been reported in the literature for over 120 years. Photographs of the specimen in Williams (2005: number 3132) and on the Femorale, Inc. web site (Coltro and Coltro, 1999) from St. Vincent appear to be this species. Its scarcity in published reports is likely explained by its very limited natural range, as well as by its inconspicuous black color and small size (8–9 mm). The occurrence of this species in Cuba, as reported by d'Orbigny, might be verifiable since the inventory of his specimens in the British Museum is listed in Gray (1854) and thus available for verification.

Subgenus *Dallspira* Bartsch, 1950

Type Species: *Dallspira dalli* Bartsch, 1950, by original designation.

Remarks: This is a small, obscure group of rare crassispirines about which little is known. The genus was erected to accommodate two eastern Pacific species that may have little in common with the western Atlantic species other than some similar sculptural elements. According to Bartsch (1950: 92–93): shell with 2 smooth protoconch whorls, and a third of small axial riblets; sulcus moderately broad and moderately concave; subsutural cord feeble or lacking altogether; anal sinus deep and round, partially constricted, and adjoining a thick parietal knob; varix thickened, lying a short distance from the edge of the outer lip, edge protracted, sinuous; axial ribs or just nodules present, and nodulous spiral cords on the base of the shell; anterior canal short, broad; and inner lip reflected over and appressed to columella.

Western Atlantic species are typically much smaller (4–7 mm) than the eastern Pacific species (14–17 mm). Characteristics of both groups of species, which also set this subgenus apart from the others in *Crassispira*, are the presence of nodulous ribs or just nodules, and nodulous spiral cords on the base of the shell. Unlike the eastern Pacific species, the three TNWA species discussed here have a distinctive spiral cord. More work is necessary to determine whether a close phylogenetic relationship between the eastern Pacific and TNWA species to justify their grouping.

Crassispira (Dallspira) flavocincta (C.B. Adams, 1850)
(Figure 31)

Pleurotoma flavocincta C.B. Adams, 1850b: 63–64: Clench and Turner (1950: 281, pl. 29, fig. 1); Olsson and McGinty (1958: 18).
Crassispira flavocincta (C.B. Adams, 1850): de Jong and Coomans (1988: 110); Williams (2005, 2006, and 2009: number 3102).
Not *Pyrgospira flavocincta* (C.B. Adams, 1850): Faber (2007: 124, figs. 30, 31) =? *Crassispira nigrescens* (C.B. Adams, 1845).

Description: According to Adams (1850b: 63–64): shell ~4.8 × 1.8 mm, elongated, ovate-conic, ~7 nearly rectilinear whorls, slightly convex, with an indistinct suture. Protoconch moderately pointed. Whorls with a row of nodules around the middle, a subsutural cord above, and a third cord of intermediate size below. (Adams does not refer to the mid-whorl sculptural elements as nodules, but rather as a "very broad moderately elevated spiral ridge" that is "plicately and transversely ribbed", which has been interpreted here as simply "nodules".) Color white, with spiral bands of yellowish brown above and below the cords, and yellowish brown in between the nodules. Aperture small, wide, anal sinus near the upper end of the outer lip, anterior canal very short.

Type Material: Holotype: MCZ 155917. A photograph of the holotype is in Clench and Turner (1950: pl. 29, fig. 1), and also in Williams (2006 and 2009: number 3102).

Type Locality: Jamaica.

Material Examined: 1 spec., 5.1 × 2.1 mm (Figure 31), Port Royal, Jamaica (ANSP 371999).

Distribution: The only confirmed specimens are from Jamaica; unconfirmed reports of this species are from Panama (E. Colon I.), and the Netherlands Antilles (Curaçao, Aruba).

Remarks: No fresh specimens have been examined to add to Adams' description. The holotype is beach worn judging from its appearance in the photograph in Clench and Turner (1950: pl. 29, fig. 1), and as a consequence there is still some uncertainty about its true identity and the validity of specimens identified as this by some. The identification of specimens reported by Olsson and McGinty (1958) and de Jong and Coomans (1988) has not been confirmed. The specimen in ANSP 371999 is slightly larger than the type (5.1 versus 4.8 mm), but agrees well with Adams' description, and Clench and Turner's photograph, so is illustrated here in Figure 31, but it too, is a worn, polished shell.

Two shells from Aruba illustrated in Faber (2007: figs. 30, 31) are labeled as this species but are more likely *C. nigrescens* (C.B. Adams, 1845). They closely resemble the specimen of *C. nigrescens* from Aruba depicted in Figure 13. The approximately 8.4 and 10.0 mm heights given for specimens in Faber's figs. 30 and 31 are much larger than the 5.1 mm for confirmed specimens of *C. flavocincta*. (The length of an unconfirmed specimen is given as 6.6 mm by de Jong and Coomans, 1988.) *Crassispira nigrescens* has been reported to reach 8.5 mm (Nowell-Usticke, 1959, for *Drillia ponciana*, a junior synonym). Faber attributes placement in *Pyrgospira* to Maes (1983), which could not be verified. Photographs of *C. flavocincta* do not show the pinched body whorl characteristic of *Pyrgospira*.

After about 108 years of anonymity, *C. flavocincta* was "rediscovered" by Olsson and McGinty (1958) and reported in their Panamanian samples, and then again 30 years later by de Jong and Coomans (1988) in samples from the Netherlands Antilles. The use of this taxon may have been precipitated by the publication of photographs of Adams' types by Clench and Turner in 1950 as no reports of this species could be found in the literature before that time. Adams' descriptions were preliminary, and on account of his untimely passing at age 39 they were never followed by the more complete monograph he had intended (Clench and Turner, 1950: 234). As a consequence, many of his names went unused until after the appearance of Clench and Turner's publication.

Crassispira (Dallspira) fuscocincta (C.B. Adams, 1850)
(Not figured)

Pleurotoma fuscocincta C.B. Adams, 1850b: 62: Krebs (1864: 9); Tryon (1884: 319); Dall (1885: 235–236); Clench and Turner (1950: 285, pl. 30, fig. 6).
Cerodrillia fuscocincta (C.B. Adams, 1850): de Jong and Coomans (1988: 112).
Crassispira fuscocincta (C.B. Adams, 1850): Williams (2005, 2006, and 2009: number 3103, photograph of type only).

Description: According to Adams (1850b) for a shell measuring 6.9 × 3.3 mm: "Shell clavate pyramidal: pale yellowish white, with a sutural line of brown, anteriorly wax yellow with revolving lines of yellowish white: with a spiral series of large smooth well rounded nodules, on slightly elevated wide ridges on the lower half of the whorls; anteriorly with a few spiral raised lines: apex acute: spire with the outlines rectilinear: whorls seven or eight, not convex, with the suture not impressed: aperture rather wide: canal very short." Note that Adams uses the term nodules in this instance, but not in the description of *C. flavocincta*, where they are smaller, not so obviously round, more numerous, and thus presumably not meeting Adams' definition thereof.

Type Material: Holotype: MCZ 155958, a photograph of which is in Clench and Turner (1950: pl. 30, fig. 6).

Type Locality: Jamaica.

Distribution: Other than the type specimen collected by Adams in Jamaica, it has only been reported from Curaçao, Netherlands Antilles, by de Jong and Coomans (1988: 112).

Remarks: Little is known about this species because the type is a much-worn specimen. Its placement in *Dallspira* is based on Adams' description. No confirmed representative of this taxon, other than the single worn type, is available to expand its description. The name had not been used for over 140 years before de Jong and Coomans (1988: 112) applied it to an un-figured specimen from Curaçao. Attempts to locate these authors' specimen have so far been unsuccessful. The holotype appears similar to, and it has been suggested (Williams, 2006) that *Crassispira bandata* (Usticke, 1969) might be the same. *C. bandata* is a fairly distinctive species; photographs of a fresh specimens have been published (Redfern 2001; Williams, 2005), there is little doubt as to the identity of this taxon, discussed next in this work. The two species have some striking similarities: a white shell with a contrasting brown subsutural cord and a row of large rounded mid-whorl nodules (as best that can be made out in the photograph of the worn holotype of *C. fuscocincta*). The disparity in Adams' *C. fuscocincta* and Nowell-Usticke's *C. bandata* is one of size. The latter has been reported to be a maximum of 4.5 mm, while the former holotype is 6.9 mm. De Jong and Coomans gave the size of the only other reported specimen as 10.5 mm. These size differences make it unlikely that all three are the same species. A full understanding of this taxon will remain in doubt until specimens matching the type can be found.

Crassispira (*Dallspira*) *bandata* (Usticke, 1969)
(Figures 32–33)

Psarostola bandata Usticke, 1969: 17, pl. 3, fig. 766.
Monilispira bandata (Usticke, 1969): new combination used by Nowell-Usticke (1971: 22).
Crassispira bandata (Nowell-Usticke [sic], 1969): Redfern (2001: 126, pl. 57, fig. 524). Note that Nowell-Usticke used only "Usticke" in species authorship; but he used "Nowell-Usticke" in the authorship of his publications.
Crassispira bandata (Usticke, 1969): Williams (2005, 2006, and 2009: number 3101, right photograph only).

Description: Nowell-Usticke (1971: 22–23) described the holotype as having 6.5 rough and knobby whorls with slightly pointed nodules, and 1.5 smooth rounded protoconch whorls. The early whorls of the teleoconch have 1 and later ones 2 rows of nodules below the subsutural cord. The otherwise creamy white shell is set off by a thin shiny orange-brown sutural band, which includes the subsutural cord, and another close to the anterior end of the shell, visible on the body whorl. The narrow base of the shell has 4 granular spiral cords and ends in a short canal. The outer lip has a small anal sinus, and a varical hump behind. One of the 2 ANSP specimens (ANSP 298618, Figure 32) has 6 ribs to the varix on the body whorl, which are formed by the longitudinal alignment of the knobs; the penultimate has 8. The outer lip is thin and has a stromboid notch. The inner lip has a small callus at the junction of the inner and outer lips. The anal sinus is deep and open, and acutely angled to the shell's axis.

Type Material: Holotype: AMNH 195459 and measures 4.25 × 2.1 mm. According to Boyko and Cordeiro (2001: 105), it is a single specimen lot. A photograph of the holotype is in Nowell-Usticke (1969: pl. 3, fig. 766, and 1971: pl. 4, fig. 1103).

Type Locality: Christiansted Harbor, St. Croix.

Material Examined: 2 spec., 4.4 × 1.9 (Figure 32) and 4.3 × 1.8 mm (much worn), off E coast, N end Elbow (Little Guana) Cay, Great Abaco, Bahama Islands, Robert Robertson! (ANSP 298618); 1 spec., 4.2 × 1.7 mm (Figure 33) in 3–20 ft [0.9–6.1 m] on reef, 1 mi [1.6 km] N of Holetown, Barbados, R. and V.O. Maes! Dec 1963 (ANSP 291177); 1 spec., 3.9 × 1.7 mm, beach-collected, Loblolly Bay, Anegada I., British Virgin Islands, A. J. and J. C. Ostheimer! 13 Mar 1960 (ANSP 249486).

Distribution: Bahama Islands: Abaco Is.; and Lesser Antilles: U. S. Virgin Is. (St. Croix), Br. Virgin Is. (Anegada I.), and Barbados.

Remarks: This species is quite unmistakable because of its small size (~4 mm), white with brown sutural band, and knobby sculpture. There is no other species that resemble it except *C. fuscocincta* (see above). Its small size probably accounts for its scarcity in collections.

The sculpture varies among specimens examined. A single row of beading (instead of two), is seen in one of the ANSP specimens; the beads become vertically elongate on the body whorl, appearing like the two rows have not been split by an incised line (Figure 33). The orange-brown sutural band varies in width, as can be seen in the photographs of two ANSP specimens (Figures 24, 25). The band is almost entirely confined to the subsutural cord on the holotype, as is most clearly seen in the photograph in Williams (2005: number 3101).

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